

## SEQUENCE LISTING

&lt;110&gt; Folks, Thomas M.

&lt;120&gt; LIVE REPLICATING SPUMAVIRUS VECTOR

&lt;130&gt; 14114.0373U2

&lt;140&gt; Unassigned

&lt;141&gt; 2004-12-27

&lt;150&gt; PCT/US03/20325

&lt;151&gt; 2003-06-27

&lt;150&gt; 60/392,630

&lt;151&gt; 2002-06-27

&lt;160&gt; 8

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 16360

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:/note =  
synthetic construct

&lt;400&gt; 1

```

cagggtggcac ttttcgggga aatgtgcgcg gaacccttat ttgtttatatt ttctaaatac 60
attcaaatat gtatccgctc atgagacaat aaccctgata aatgcttcaa taatattgaa 120
aaaggaagag tatgagtatt caacatttcc gtgtcgccct tattcccttt tttgcggcat 180
tttgccttcc tgtttttgct caccagaaa cgctggtgaa agtaaaagat gctgaagatc 240
agttgggtgc acgagtgggt tacatcgaac tggatctcaa cagcggtaag atccttgaga 300
gttttcgccc cgaagaacgt tttccaatga tgagcacttt taaagttctg ctatgtggcg 360
cgggtattatc ccgtgttgac gccgggcaag agcaactcgg tcgccgcata cactattctc 420
agaatgactt gggtgagtac tcaccagtca cagaaaagca tcttacggat ggcattgacag 480
taagagaatt atgcagtgtc gccataacca tgagtgataa cactgcggcc aacttacttc 540
tgacaacgat cggaggaccg aaggagctaa ccgctttttt gcacaacatg ggggatcatg 600
taactcgctt tgatcggttg gaaccggagc tgaatgaagc cataccaaac gacgagcgtg 660
acaccacgat gcctgcagca atggcaacaa cgttgcgcaa actattaact ggcgaactac 720
ttactctagc ttcccggcaa caattaatag actggatgga ggcggataaa gttgcaggac 780
cacttctgcg ctccggccctt ccggctgggt ggtttattgc tgataaatct ggagccggtg 840
agcgtgggtc tcgcgggtatc attgcagcac tggggccaga tccattcggg agggcatagc 900
atcaatagat gtgctgcccc tcagtcctgt gatacctact tggtaagccc tcccgtatcg 960
tagttatcta cagcaggggg agtcaggcaa ctatggatga acgaaataga cagatcgctg 1020
agataggtgc ctactgatt aagcattggt aactgtcaga ccaagtttac tcatatatac 1080
tttagattga tttaaaactt catttttaaat ttaaaaggat ctaggatgaag atcctttttg 1140
ataatctcat gacaaaaatc ccttaacgtg agttttcgtt ccactgagcg tcagaccccg 1200
tagaaaagat caaaggatct tcttgagatc ctttttttct gcgcgtaatc tgctgcttgc 1260
aaacaaaaaa accaccgcta ccagcgggtg tttgtttgcc ggatcaagag ctaccaactc 1320
tttttccgaa ggtaactggc ttcagcagag cgcagatacc aaatactgtc cttctagtgt 1380
agccgtagtt aggccaccac ttcaagaact ctgtagcacc gcctacatac ctgcgtctgc 1440
taatcctgtt accagtgggt gctgccagtg gcgataagtc gtgtcttacc gggttggact 1500
caagacgata gttaccggat aaggcgcagc ggtcgggctg aacggggggg tcgtgcacac 1560
agcccagctt ggagcgaacg acctacaccg aactgagata cctacagcgt gagctatgag 1620
aaagcggcac gcttcccga aaggagaaagg cggacaggta tccggtaagc ggcagggtcg 1680

```

gaacaggaga	gcgcacgagg	gagcttccag	ggggaaacgc	ctggtatctt	tatagtccctg	1740
tcggggttctg	ccacctctga	cttgagcgtc	gattttttgtg	atgctcgtca	ggggggcgga	1800
gcctatggaa	aaacgccagc	aacgcggcct	ttttacgggt	cctggccttt	tgctggcctt	1860
ttgctcacat	gttctttcct	gcgttatccc	ctgattctgt	ggataaccgt	attaccgcct	1920
ttgagtga	tgataccgct	cgccgcagcc	gaacgaccga	gcgcagcgag	tcagtga	1980
aggaagcgga	agagcgctga	cttcgcggtt	tccagacttt	acgaaacacg	gaaaccgaag	2040
accattcatg	ttgttgctca	ggtcgcagac	gttttgcagc	agcagtcgct	tcacgttcgc	2100
tcgcgtatcg	gtgattcatt	ctgctaacca	gtaaggcaac	cccgccagcc	tagccgggtc	2160
ctcaacgaca	ggagcacgat	catgcgcacc	cgtggccagg	acccaacgct	gcccagagatg	2220
cgccgcgtgc	ggctgctgga	gatggcggac	gcgatggata	tgttctgcca	agggttgggt	2280
tgcgcatcca	cagttctccg	caagaattga	ttggctccaa	ttcttgaggt	gggtgaatccg	2340
ttagcgaggt	gcccgcggta	cccctgtaaa	caatgctgga	ctatttataa	atccttgagg	2400
aagacgtgtg	gtggaatgcc	actagaaaact	agggaaaact	aggaggagag	tattacaggg	2460
aaggaagtga	agaacctcgt	gacccaaata	ctcctgctcc	tcatagacgt	acctgggatg	2520
agagacacaa	ggttcttata	ttgtcctcat	tcgctactcc	ctctgacatc	caacgctggg	2580
ctactaaagc	attgccttat	ggctggaaag	tggtcaccga	aagcggaaat	gattatacta	2640
gccgcagaaa	gatcagaaca	ttgacagaga	tgactcagga	tgaaattaga	aaaagggtggg	2700
aaagtggata	ttgtgacccc	ttcattgact	caggaagtga	ctcagatgga	cccttctaaa	2760
agccacagac	agtaaaaatg	tgtagcact	ttatacaata	ttatatctgc	ttaagctata	2820
gaagctttca	catactcagt	agctgtttca	caatcaacaa	aacaatgatg	atgtaatcat	2880
aaggaagtag	tttaaaatag	gttaataagt	ttattagtta	tatagaaaat	aatataggat	2940
aaagtataag	gattaaggta	tgaggtgtgt	ggctcaacac	gtaggggtgac	aagaaaatct	3000
actgtaatag	gacacaacac	ctctaaggtt	gcccgtggga	aggtgaagtg	agatcgaatc	3060
tttccttaac	gcagacagct	ttttatccac	tagggataat	gttttaagga	atactatagt	3120
aatagattga	tagttttaac	aatgatggaa	atagtatata	aggatagttt	ctagattgta	3180
cgggagctct	tcactactcg	ctgcgtcgag	agtgtacgag	actctccagg	tttggttaaga	3240
aatattttat	attgttataa	tggtactatg	atccattaac	actctgctta	tagattgtaa	3300
gggtgattgc	aatgctttct	gcataaaaact	ttgggttttct	tgttaatcaa	taaaccgact	3360
tgattcgaga	acctactcat	atattattgt	ctcttttata	ctttattaa	taaaaggatt	3420
tgtatattag	ccttgctaag	ggagacatct	agtgatataa	gtgtgaacta	cacttatctt	3480
aatgatgta	actccttagg	ataatcaata	tacaaaattc	catgacaatt	ggcgcccaac	3540
gtggggctcg	aatataagtc	gggttttatt	gtaaattatc	cctagggacc	tccgagcata	3600
gcgggaggca	tataaaagcc	aatagacaat	ggcttcagga	agtaatgttg	aagaatatga	3660
acttgatgtt	gaagctctgg	ttgtaatttt	aagagataga	aatataccaa	gaaatccttt	3720
acatggagaa	gttataggtc	ttcgcccttac	tgaaggatgg	tggggacaaa	ttgagagatt	3780
tcagatggta	cgtctaatat	tacaagatga	tgataatgaa	cctttacaga	gacctagata	3840
tgaggtataa	caacgagctg	taaaccctca	tacaatgttt	atgatatcag	gaccattagc	3900
tgaacttcaa	ttagcctttc	aggatttaga	tttacctgaa	ggtccattga	ggtttggtcc	3960
attggcaaat	ggacattatg	ttcaaggaga	tccttatagt	agttcttaca	gaccagtaac	4020
aatggccgaa	acagcccaaa	tgactagaga	tgaactggaa	gatgttctta	atactcaaag	4080
tgaatataga	attcaaatga	taaatttatt	ggagttgtat	gaagttgaaa	ctagagctct	4140
tgaaagacaa	ttagctgaga	gatctagtac	agggcaagga	ggaatatccc	caggagctcc	4200
tcgttctcga	ccaccagtaa	gcagcttctc	agggttacca	agtttgccct	ctatacctgg	4260
gattcatccc	agggcacctt	cacctccaag	ggcaacttct	actcccggaa	atattccttg	4320
gagtttagga	gatgatagcc	caccttcctc	tagttttcct	ggacctctct	aacctcgtgt	4380
ttctttccat	ccgggaaatc	cttttggtga	agaagaaggt	catagacctc	gatcccagtc	4440
tagagaaagg	agaagagaaa	ttcttcctgc	tcctgtaccg	tcagcacctc	ctatgattca	4500
gtatatacca	gtaccacctc	caccaccgat	tggcacgggt	atacctattc	agcatatcag	4560
atctgtaact	ggagagcctc	ctagaaaccc	aagagaaata	ccaatttggc	taggacgaaa	4620
tgctcctgct	atagatggag	tgttccctgt	tacaacaccg	gatctaagat	gcagaataat	4680
taatgctata	ctaggaggaa	atattgggtg	atcataacc	cctggagact	gttttaacatg	4740
ggactcagca	gtagccacct	tatttattag	aacccatgga	acttttccaa	tgcatcagct	4800
tggaaatgta	ataaaaggca	tagttgatca	agaaggagtg	gcaacagcat	atactttggg	4860
aatgatgctt	tctggacaaa	attatcaatt	agtttctgga	ataattagag	gatatttgcc	4920
tggacaagct	gtagtaactg	cattacaaca	gcgttttagac	caagaaatag	ataatcaaac	4980
aagagcagag	acttttattc	aacatctaaa	tgctgtatat	gaaatttttag	gccttaatgc	5040
cagaggacaa	agtatacgtg	cttcagtgac	tcctcaaccc	cgaccatcca	gaggtagagg	5100
tcgaggtcaa	aatacttcta	gacctctca	aggaccagct	aatagcgggc	ggggacgaca	5160
gcgccttgct	tctgggtcaa	gcaacagagg	atctagtact	cagaatcaaa	atcaagataa	5220
tttaaatcaa	ggaggatata	atcttcgacc	ccgtacttac	caacctcaaa	ggtacggagg	5280
aggacgtgga	cgaagatgga	acgataatac	taacaatcaa	gagtcacagac	catcagatca	5340

aggttctcaa	actcctaggc	caaatcaagc	aggctctggg	gtgcgtggca	atcagtcaca	5400
aactcccaga	ccagctgctg	gtcgcggagg	aagaggtaac	cacaaccgaa	accaacgac	5460
atccggtgct	ggtagactcac	gcgctgtcaa	taccgtgaca	cagagtgcc	cgctctccac	5520
agatgaatcc	tcttcagctg	ttacagccgc	ttccggcgga	gatcaaaggg	actaaattgt	5580
tagcccactg	ggattcaggg	gcaacaataa	cttgatttcc	tgaaagtttt	ttagaagatg	5640
aacaacctat	taaaaagagt	ttaataaaaa	caattcatgg	agaaaaacaa	caaaatgttt	5700
attatgtaac	ctttaaagtt	aaaggaagaa	aagtggaagc	agaagtgata	gcttctcctt	5760
atgagtatat	tttgctgtcg	ccaacagatg	ttccttggtt	aacacagcaa	ccacttcagt	5820
taacaatttt	agttcctcct	caagaatatc	aagagaaaat	cttaagtaag	actgctcttc	5880
cagaagatca	aaaacaacaa	ttaaaaacct	tgtttgtaa	gtatgacaat	ctatggcaac	5940
attgggaaaa	tcaagtcggg	catagaaaaa	ttaggccaca	taatatagca	actggtgatt	6000
atcctcctcg	ccctcaaaaa	caatatccta	ttaatcctaa	ggcaaagcct	agtatacaaa	6060
ttgtaataga	tgacttattg	aaacaagggg	tgtaaagcc	tcaaaatagt	acaatgaata	6120
caccagtgtg	tctgttctct	aaaccagatg	gaaggtggag	aatgggtatta	gattatagag	6180
aagtaaataa	aactattcca	ttaacagctg	cccaaaacca	acactctgct	ggtattttag	6240
ctactattgt	tagacaaaaa	tataaaacta	ccttagattt	agctaattgga	ttttgggctc	6300
atcctattac	accagaatct	tattgggtta	cagcatttac	ctggcaaggt	aaacagtatt	6360
gttggaacag	tcttctccta	ggatttttaa	atagtccagc	attgtttaca	gctgatgtag	6420
tagattttact	aaaagaaatc	cctaattgtac	aagtgtatgt	tgatgatata	tatttaagcc	6480
atgatgatcc	taaagagcat	gttcaacaat	tagaaaaagt	gtttcaaatt	ttactacagg	6540
caggatatgt	agtatctttg	aaaaaatcag	aaattgggtca	aaaaactgta	gaatttttag	6600
gatttaatat	tactaaagaa	ggtcgtggcc	taacagacac	ttttaaaaca	aaactgttaa	6660
atattactcc	tccaaaagac	ttaaagcaat	tacaaagcat	attaggattg	ttaaattttg	6720
ctagaaattt	tatacctaatt	tttgctgaac	tggtacaacc	attatacaat	ttaatagcct	6780
cagcaaaagg	caaatatatt	gagtggctctg	aagaaaatac	taaacaatta	aatatggtaa	6840
tagaagcatt	aaacactgcc	tctaatttag	aagaaagggt	accagaacag	agactggtaa	6900
ttaaagtcaa	tacttctcca	tcagcaggat	atgtaagata	ttataatgag	actggtaaaa	6960
agcctattat	gtacctaaat	tatgtgtttt	ccaaagcaga	attaaaattt	tctatgttag	7020
aaaaactatt	aactacaatg	cacaaaagcct	taattaaggc	tatggatttg	gccatgggac	7080
aagaaatatt	agttttatagt	cccattgtat	ctatgactaa	aatacaaaaa	actccactac	7140
cagaaagaaa	agctttaccc	attagatgga	taacatggat	gacttattta	gaagatccaa	7200
gaatccaatt	tcattatgat	aaaaccttac	cagaacttaa	gcatattcca	gatgtatata	7260
catctagtcg	gtctctgtgt	aaacatcctt	ctcaatatga	aggagtgttt	tatactgatg	7320
gctcggccat	caaaagtcct	gatcctacaa	aaagcaataa	tgctggcatg	ggaatagtag	7380
atgccacata	caaacctgaa	tatcaagttt	tgaatcaatg	gtcaatacca	ctaggtaatc	7440
atactgctca	gatggctgaa	atagctgcag	ttgaatttgc	ctgtaaaaaa	gctttaaaaa	7500
tacctggctc	tgtattagtt	ataactgata	gtttctatgt	agcagaaagt	gctaataaag	7560
aattaccata	ctggaaatct	aatgggtttg	ttataataaa	gaaaaagcct	cttaaacata	7620
tctccaaatg	gaaatctatt	gctgagtgtt	tatctatgaa	accagacatt	actattcaac	7680
atgaaaaagg	catcagccta	caaataccag	tattcatact	gaaaggcaat	gccctagcag	7740
ataagcttgc	cacccaagga	agttatgtgg	ttaatgttaa	taccaaaaaa	ccaaacctgg	7800
atgcagagtt	ggatcaatta	ttacaggggt	attatataaa	aggatatccc	aaacaatata	7860
catatttttt	agaagatggc	aaagtataag	tttccagacc	tgaaggggtt	aaaattattc	7920
cccctcagtc	agacagacaa	aaaattgtgc	ttcaagccca	caatttggct	cacaccggac	7980
gtgaagccac	tcttttaaaa	attgccaacc	tttattgggtg	gccaaatatg	agaaaggatg	8040
tggttaaac	actaggacgc	tgtcaacagt	gtttaatcac	aaatgcttcc	aacaaagcct	8100
ctggctcctat	tctaagacca	gataggcctc	aaaaaccttt	tgataaattc	tttattgact	8160
atattggacc	tttgccacct	tcacagggat	acctatatgt	attagtagtt	gttgatggaa	8220
tgacaggatt	cacttggtta	tacccacta	aggctccttc	tactagecga	actgttaaat	8280
ctctcaatgt	actcactagt	attgcaattc	caaaggtgat	tcactctgat	caaggtgcag	8340
cattcacttc	ttcaaccttt	gctgaatggg	caaaggaaag	aggatacat	ttggaattca	8400
gtactcctta	tcacccccaa	agtggtagta	agggtgaaag	gaaaaatagt	gatataaaac	8460
gacttttaac	taaactgcta	gtaggaagac	ccacaaagtg	gtatgacct	ttgcctgttg	8520
tacaacttgc	tttaaacac	acctatagcc	ctgtattaaa	atatactcca	catcaactct	8580
tatttggtat	agattcaaat	actccatttg	caaatcaaga	tacacttgac	ttgaccagag	8640
aagaagaact	ttctctttta	caggaaattc	gtacttcttt	ataccatcca	tccaccctc	8700
cagcctcctc	tcgttccttg	tctcctgttg	ttggccaatt	gggtccaggag	aggggtggcta	8760
ggcctgcttc	tttgagacct	cggtggcata	aaccgtctac	tgtacttaag	gtgttgaaac	8820
caaggactgt	tgttattttg	gaccatcttg	gcaacaacag	aactgtaagt	atagataatt	8880
taaaacctac	ttctcatcag	aatggcacca	ccaatgacac	tgcaacaatg	gatcatttgg	8940
aaaaaatga	ataaagcgca	tgaggcactt	caaaatacaa	caactgtgac	tgaacagcag	9000

aaggaacaaa	ttatactgga	cattcaaaat	gaagaagtac	aaccaactag	gagagataaa	9060
tttagatata	tgctttatac	ttgttgtgct	actagctcaa	gagtattggc	ctggatgttt	9120
ttagtttgta	tattgttaat	cattgttttg	gtttcatgct	ttgtgactat	atccagaata	9180
caatggaata	aggatattca	ggtattagga	cctgtaatat	actggaatgt	tactcaaaga	9240
gctgtttatc	aacccttaca	gactagaagg	attgcacggt	cccttagaat	gcagcatcct	9300
gttccaaaat	atgtggagggt	aaatatgact	agtattccac	aagggtgtata	ctatgaaccc	9360
catccggaac	ccatagtggg	gaaggagagg	gtcctagggtc	tttctcaaat	tctgatgatt	9420
aattcagaaa	acattgctaa	taatgcta	ttgacacaag	aagtaaagaa	gttgtaaact	9480
gaaatgggta	atgaagaaat	gcaaagtttg	tcagatgtaa	tgattgactt	tgaaattcct	9540
ttaggagacc	ctcgtgatca	agaacaatat	atacatagaa	aatgctatca	agaatttgca	9600
aattgttatt	tagtaaaata	taaagaaccc	aaaccgtggc	ctaaggagggt	ccttatagct	9660
gatcaatgcc	cattaccagg	ttaccatgct	ggattaacct	ataatagaca	gtctatttgg	9720
gattactata	ttaaagtgga	gagtattaga	cctgcaaatt	ggacaacaaa	gagtaaata	9780
ggacaagcta	gactaggaag	tttttatatt	cctagcagcc	tgagacaaat	caatgttagt	9840
catgtactat	tctgtagtga	tcaattatat	tctaaatggg	ataatataga	aaataccata	9900
gaacaaaacg	agcgggtttct	gcttaataaa	ctaaataacc	ttacatctgg	aacctcagta	9960
ttgaagaaaa	gagctcttcc	gaaggattgg	agtctctcaag	gtaaaaatgc	tctgtttaga	10020
gaaatcaatg	tgtagatat	ctgcagtaaa	cctgaatctg	taatactatt	gaatacttca	10080
tactattcct	tctctttatg	ggaaggagat	tgtaatttta	ctaaagatat	gatttctcag	10140
ttgggtccag	aatgtgatgg	attttataac	aattctaagt	ggatgcatat	gcattccatat	10200
gcttgtagat	tctggagaag	taagaagaat	gaaaaagaag	aaactaaatg	tagagatggg	10260
gaaactaaga	gatgtctgta	ttatccttta	tgggcacgtc	ccgaatctac	atatgatatt	10320
ggttattttag	cataccaaaa	gaattttcct	tcccctatct	gtatagaaca	acagaaaatt	10380
agagatcaag	attatgaagt	ctattccttg	tatcaagaac	gcaaaatagc	ttctaaagca	10440
tatggaattg	atacagtttt	attctctcta	aagaattttc	ttaattatac	aggaactcct	10500
gtaaatgaaa	tgctaatgc	aagagctttt	gtaggcctaa	tagatcccaa	gtttcctcct	10560
tcctatccca	atgttactag	ggaacattat	acttctctgta	ataataggaa	aagaagaagt	10620
gttgataata	actatgctaa	gttaagggtct	atgggggtatg	cacttacagg	agcagtgcaa	10680
accttatctc	aaatatcaga	tattaatgat	gaaaacttac	agcaagggaat	atattttatta	10740
agggatcatg	taataacctt	aatggaagct	acattgcatg	atatactctgt	tatggaagga	10800
atgtttgctg	tacaacattt	gcatacacat	ttgaatcatt	tgaagacaat	gcttctagaa	10860
agaagaatag	actggaccta	tatgtctagt	acttggctac	aacaacaatt	acagaaatct	10920
gatgatgaga	tgaaagtaat	aaagagaatt	gctagaagtt	tggtatatta	tggtaaacaa	10980
acccatagtt	ctcccacagc	tacagcctgg	gagattggat	tatattatga	attggttata	11040
cctaaacata	tttacttgaa	taattggaat	gttgtcaata	taggtcactt	agttaaatca	11100
gctggacaat	tgactcatgt	aactatagct	catccttatg	aaataatcaa	taagggaatgt	11160
gtagagacta	tatatctgca	tcttgaggac	tgacaagac	aagattatgt	catatgtgat	11220
gtggtaaaga	tagtgagcc	ttgtggcaat	agctcagaca	cgagtgtattg	tcctgtctgg	11280
gctgaagctg	taaaagaacc	atttgtgcaa	gtcaatcctc	tgaaaaacgg	aagttatctg	11340
gttttgcaa	gttccacaga	ctgtcagatc	ccaccatatg	ttcctagcat	cgtgactgtt	11400
aatgaaacaa	cgtcatgctt	tggactggac	tttaaaaggc	cactgggtgc	ggaagaaaga	11460
ttgagctttg	agccacgact	gccaaatcta	caactaagat	taccacattt	gggtggaatt	11520
attgcaaaaa	tcaaagggat	aaaaatagaa	gtcacatcct	ctggagaaag	tataaaagag	11580
cagattgaaa	gagcaaaagc	tgagctcctt	cgactggaca	ttcacgaggg	agatactcct	11640
gcctggatac	aacagctagc	tgagcaaca	aaggacgtct	ggccagcagc	agcttctgct	11700
ctacaaggaa	ttggtaactt	tttatctggg	actgcccaag	gaatatttgg	aactgccttt	11760
agtctcttgg	gatacttaaa	gcctatccta	ataggagtag	gggtcattct	cttggttatt	11820
cttatattta	agattgtatc	atggattcct	acgaaaaaga	agaatcagta	gcctccacct	11880
ctggaattca	agacctgcag	actctgagt	agcttgttgg	tcctgaaaat	gccggagagg	11940
gagagctgac	tattgctgag	gaacctgaag	aaaatcctcg	acgccccaga	cgatatacta	12000
aaagagaagt	caaatgtgtg	tcttatcatg	catataaaga	aattgaggac	aaacatcctc	12060
aacatattaa	actgcaggat	tggatcccca	caccagagga	aatgagtaag	tcactctgta	12120
aaagacttat	tttatgtgga	ttgtatagt	cagaaaaggc	ctcagagatt	ttaaggatgc	12180
cttttacagt	ttcttgggaa	caatcagata	ctgaccctga	ctgttttatt	gtaagctata	12240
catgtatatt	ttgtgatgct	gtaatacatg	atcccatgcc	cataagatgg	gatcctgaag	12300
ttggaatttg	ggtaaaatat	aaaccctca	gaggaattgt	tggatctgct	gtgtttatta	12360
tgcataaaca	tcaaagaaac	tgttctcttg	ttaaaccttc	taccagtcgc	tcagaagggtc	12420
caaaaaccaag	acctaggcac	gatcctgtcc	ttcgatgtga	catgtttgaa	aagcatcaca	12480
agcctcggca	gaaacgaccc	aggagacgat	ccatcgataa	tgagtcagtg	gcttccagta	12540
gtgacaccat	ggccaatgag	ccaggatcac	tatgcaccaa	ccctcttggg	aatcctggac	12600
cgctactatc	agggctactt	gaagagtcca	gcaacctacc	aaacttggaa	gttcacatgt	12660

caggtggacc	cttctgggaa	gaggtttatg	gggactcaat	tttgggtccc	ccctctgggt	12720
caggtgaaca	ttcagtttta	taagaattat	cagattctaa	cttgctgtca	ggctgtagat	12780
cttcttaagc	ttgcgggaga	cgtcgagtcc	aaccctgggc	ccgatatccc	catgggtgcg	12840
agagcgtcgg	tattaagcgg	gggagaatta	gataaatggg	aaaaaattcg	gttaaggcca	12900
gggggaaaga	aacaatataa	actaaaacat	atagtatggg	caagcagggg	gctagaacga	12960
ttcgcagtta	atcctggcct	tttagagaca	tcagaaggct	gtagacaaat	actgggacag	13020
ctacaaccat	cccttcagac	aggatcagaa	gaacttagat	cattatataa	tacaatagca	13080
gtcctctatt	gtgtgcatca	aaggatagat	gtaaaagaca	ccaaggaagc	cttagataag	13140
atagaggaag	agcaaaacaa	aagtaagaaa	aaggcacagc	aagcagcagc	tgacacagga	13200
aacaacagcc	aggtcagcca	aaattaccct	atagtgcaga	acctccaggg	gcaaattggta	13260
catcaggcca	tatcacctag	aactttaaat	gcatgggtaa	aagtagtaga	agagaaggct	13320
ttcagcccag	aagtaatacc	catgttttca	gcattatcag	aaggagccac	cccacaagat	13380
ttaaatacca	tgctaaacac	agtgggggga	catcaagcag	ccatgcaaata	gttaaaagag	13440
accatcaatg	aggaagctgc	agaatgggat	agattgcatc	cagtgcattgc	agggcctatt	13500
gcaccaggcc	agatgagaga	accaagggga	agtgcacatg	caggaactac	tagtaccctt	13560
caggaacaaa	taggatggat	gacacataat	ccacctatcc	cagtaggaga	aatctataaa	13620
agatggataa	tcttgggatt	aaataaaaata	gtaagaatgt	atagccctac	cagcattctg	13680
gacataagac	aaggaccaaa	ggaacccttt	agagactatg	tagaccgatt	ctataaaaact	13740
ctaagagccg	agcaagcttc	acaagaggta	aaaaattgga	tgacagaaac	cttgttgggtc	13800
caaaatgcca	accagatttg	taagactatt	ttaaaagcat	tgggaccagg	agcgacacta	13860
gaagaaatga	tgacagcatg	tcagggagtg	gggggaccgc	gccataaagc	aagagttttg	13920
atgggtgcga	gagcgctcgg	attaagcggg	ggagaattag	ataaatggga	aaaaattcgg	13980
ttaaggccag	ggggaaagaa	acaatatataa	ctaaaacata	tagtatgggc	aagcagggag	14040
ctagaacgat	tcgcagttta	tcttggcctt	ttagagacat	cagaaggctg	tagacaaata	14100
ctgggacagc	tacaaccatc	ccttcagaca	ggatcagaag	aacttagatc	attatataat	14160
acaatagcag	tctctatttg	tgtgcatcaa	aggatagatg	taaaagacac	caaggaagcc	14220
ttagataaga	tagaggaaga	gcaaaacaaa	agtaagaaaa	aggcacagca	agcagcagct	14280
gacacaggaa	acaacagcca	ggtcagccaa	aattacccta	tagtgcagaa	cctccagggg	14340
caaattggtac	atcaggccat	atcacctaga	actttaaatg	catgggtaaa	agtagtagaa	14400
gagaaggctt	tcagcccaga	agtaataccc	atgtttttcag	cattatcaga	aggagccacc	14460
ccacaagatt	taataaccat	gctaaacaca	gtggggggac	atcaagcagc	catgcaaattg	14520
ttaaaagaga	cactcaatga	ggaagctgca	gaatgggata	gattgcatcc	agtgcatgca	14580
gggcctattg	caccaggcca	gatgagagaa	ccaaggggaa	gtgacatagc	aggaactact	14640
agtacccttc	aggaacaaat	aggatggatg	acacataatc	cacctatccc	agtaggagaa	14700
atctataaaa	gatggataat	cctgggatta	aataaaaatag	taagaatgta	tagccctacc	14760
agcattcttg	acataagaca	aggaccaaag	gaacccttta	gagactatgt	agaccgattc	14820
tataaaaactc	taagagccga	gcaagcttca	caagaggtaa	aaaattggat	gacagaaacc	14880
ttgtttggctc	aaaatgcgaa	cccagattgt	aagactattt	taaaagcatt	gggaccagga	14940
gcgacactag	aagaaatgat	gacagcatgt	cagggagtg	ggggaccgcg	ccataaagca	15000
agagttttgt	aaagcgccg	cgactctagg	ggattcgcca	taagtaagta	agcttatgga	15060
cctcagagag	gaagtaacga	ggagagggtg	tggtgggaatg	tcactagaaa	ccagggaaaaa	15120
caaggaggag	agttattacag	ggaaggaggt	gagaacctc	attacccaaa	tactcctgct	15180
cctcatagac	gtacctggga	tgagagacac	aaggttctta	aattgtcctc	attcgctact	15240
ccctctgaca	tccaacgctg	ggctactaaa	gcattgcctt	atggctggaa	agtggtcacc	15300
gaaagcgga	atgattatac	tagccgcaga	aagatcagaa	cattgacaga	gatgactcag	15360
gatgaaatta	gaaaaagggtg	ggaaagtggg	tattgtgacc	ccttcattga	ctcaggaagt	15420
gactcagatg	gacccttcta	aaagccacag	acagtaaaaa	tgtgttagca	ctttatacaa	15480
tattatatct	gcttaagcta	tagaagcttt	cacatactca	gtagctgttt	cacaatcaac	15540
aaaacaatga	tgatgtaatc	ataaggaagt	agtttaataa	ggttaataag	tttattagtt	15600
atatagaaaa	taatataagga	taaagtataa	ggattaaggt	atgaggtgtg	tggctcaaca	15660
cgtaggggtga	caagaaaaatc	tactgtaata	ggacacaaca	cctctaaagt	tgcccgtggg	15720
aagggtgaagt	gagatcgaat	ctttccttaa	cgcagacagc	tttttatcca	ctagggataa	15780
tgtttttaagg	aatactatag	taatagattg	atagttttaa	caatgatgga	aatagtatat	15840
aaggatagtt	tctagattgt	acgggaggct	cttcactact	cgctgcgtcg	agagtgtacg	15900
agactctcca	ggtttggttaa	gaaatatttt	atattgttat	aatgttacta	tgatccatta	15960
acactctgct	tatagattgt	aagggtgatt	gcaatgcttt	ctgcataaaa	ctttggtttt	16020
cttggttaatc	aataaaaccga	cttgattcga	gaaccaactc	ctatattatt	gtctctttta	16080
tacttttatta	agtaaaagga	tttgtatatt	agccttgcta	agggagacat	ctagtatat	16140
aagtgtgaac	tacacttatc	ttaaatgatg	ttaactcctta	ggataatcaa	tatacaaaat	16200
tccatgacaa	gatccacagg	acgggtgtgg	tcgccatgat	cgcgtagtcg	atagtggctc	16260
caagtagcga	agcgagcagg	actgggcgcc	ggccaaagcg	gtcggacagt	gctccgagaa	16320

cgggtgcgca tagaaattgc atcaacgcat atagcgctag

16360

<210> 2  
<211> 1503  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:/note =  
synthetic construct

<400> 2  
atgggtgcga gagcgctcggg attaagcggg ggagaattag ataaatggga aaaaattcgg 60  
ttaaggccag ggggaaagaa acaatataaa ctaaaacata tagtatgggc aagcagggag 120  
ctagaacgat tcgcagttaa tcctggcctt ttagagacat cagaaggctg tagacaaata 180  
ctgggacagc tacaaccatc ccttcagaca ggatcagaag aacttagatc attatataat 240  
acaatagcag tcctctattg tgtgcatcaa aggatagatg taaaagacac caaggaagcc 300  
ttagataaga tagaggaaga gcaaaacaaa agtaagaaaa aggcacagca agcagcagct 360  
gacacaggaa acaacagcca ggtcagccaa aattacccta tagtgcagaa cctccagggg 420  
caaattggtac atcaggccat atcacctaga acttttaaat catgggtaaa agtagtagaa 480  
gagaaggctt tcagcccaga agtaataccc atgttttcag cattatcaga aggagccacc 540  
ccacaagatt taaataccat gctaaacaca gtggggggac atcaagcagc catgcaaattg 600  
ttaaagaga ccatcaatga ggaagctgca gaatgggata gattgcattcc agtgcattgca 660  
gggcctattg caccaggcca gatgagagaa ccaaggggaa gtgacatagc aggaactact 720  
agtacccttc aggaacaaat aggatggatg acacataatc cacctatccc agtaggagaa 780  
atctataaaa gatggataat cctgggatta aataaaatag taagaatgta tagccctacc 840  
agcattcttg acataagaca aggaccaaag gaacccttta gagactatgt agaccgattc 900  
tataaaactc taagagccga gcaagcttca caagaggtaa aaaattggat gacagaaacc 960  
ttgttgggtcc aaaatgcgaa ccagattgt aagactattt taaaagcatt gggaccagga 1020  
gcgacactag aagaaatgat gacagcatgt cagggagtgg ggggaccgg ccataaagca 1080  
agagttttgg ctgaagcaat gagccaagta acaaatccag ctaccataat gatacagaaa 1140  
ggcaatttta ggaaccaaag aaagactgtt aagtgtttca attgtggcaa agaagggcac 1200  
atagccaaaa attgcagggc ccctaggaaa aagggtgtt ggaaatgtgg aaaggaagga 1260  
caccaaataa aagattgtac tgagagacag gctaattttt tagggaagat ctggccttcc 1320  
cacaagggaa ggccagggaa ttttcttcag agcagaccag agccaacagc cccaccagaa 1380  
gagagcttca gggttggggg agagacaaca actccctctc agaagcagga gccgatagac 1440  
aaggaactgt atccttttagc ttccctcaga tcactctttg gcagcgaccc ctcgtcacia 1500  
taa 1503

<210> 3  
<211> 500  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:/note =  
synthetic construct

<400> 3  
Met Gly Ala Arg Ala Ser Val Leu Ser Gly Gly Glu Leu Asp Lys Trp  
1 5 10 15  
Glu Lys Ile Arg Leu Arg Pro Gly Gly Lys Lys Gln Tyr Lys Leu Lys  
20 25 30  
His Ile Val Trp Ala Ser Arg Glu Leu Glu Arg Phe Ala Val Asn Pro  
35 40 45  
Gly Leu Leu Glu Thr Ser Glu Gly Cys Arg Gln Ile Leu Gly Gln Leu  
50 55 60  
Gln Pro Ser Leu Gln Thr Gly Ser Glu Glu Leu Arg Ser Leu Tyr Asn  
65 70 75 80

Thr	Ile	Ala	Val	Leu	Tyr	Cys	Val	His	Gln	Arg	Ile	Asp	Val	Lys	Asp	85	90	95
Thr	Lys	Glu	Ala	Leu	Asp	Lys	Ile	Glu	Glu	Gln	Asn	Lys	Ser	Lys		100	105	110
Lys	Lys	Ala	Gln	Gln	Ala	Ala	Ala	Asp	Thr	Gly	Asn	Asn	Ser	Gln	Val	115	120	125
Ser	Gln	Asn	Tyr	Pro	Ile	Val	Gln	Asn	Leu	Gln	Gly	Gln	Met	Val	His	130	135	140
Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp	Val	Lys	Val	Val	Glu	145	150	155
Glu	Lys	Ala	Phe	Ser	Pro	Glu	Val	Ile	Pro	Met	Phe	Ser	Ala	Leu	Ser	165	170	175
Glu	Gly	Ala	Thr	Pro	Gln	Asp	Leu	Asn	Thr	Met	Leu	Asn	Thr	Val	Gly	180	185	190
Gly	His	Gln	Ala	Ala	Met	Gln	Met	Leu	Lys	Glu	Thr	Ile	Asn	Glu	Glu	195	200	205
Ala	Ala	Glu	Trp	Asp	Arg	Leu	His	Pro	Val	His	Ala	Gly	Pro	Ile	Ala	210	215	220
Pro	Gly	Gln	Met	Arg	Glu	Pro	Arg	Gly	Ser	Asp	Ile	Ala	Gly	Thr	Thr	225	230	235
Ser	Thr	Leu	Gln	Glu	Gln	Ile	Gly	Trp	Met	Thr	His	Asn	Pro	Pro	Ile	245	250	255
Pro	Val	Gly	Glu	Ile	Tyr	Lys	Arg	Trp	Ile	Ile	Leu	Gly	Leu	Asn	Lys	260	265	270
Ile	Val	Arg	Met	Tyr	Ser	Pro	Thr	Ser	Ile	Leu	Asp	Ile	Arg	Gln	Gly	275	280	285
Pro	Lys	Glu	Pro	Phe	Arg	Asp	Tyr	Val	Asp	Arg	Phe	Tyr	Lys	Thr	Leu	290	295	300
Arg	Ala	Glu	Gln	Ala	Ser	Gln	Glu	Val	Lys	Asn	Trp	Met	Thr	Glu	Thr	305	310	315
Leu	Leu	Val	Gln	Asn	Ala	Asn	Pro	Asp	Cys	Lys	Thr	Ile	Leu	Lys	Ala	325	330	335
Leu	Gly	Pro	Gly	Ala	Thr	Leu	Glu	Glu	Met	Met	Thr	Ala	Cys	Gln	Gly	340	345	350
Val	Gly	Gly	Pro	Gly	His	Lys	Ala	Arg	Val	Leu	Ala	Glu	Ala	Met	Ser	355	360	365
Gln	Val	Thr	Asn	Pro	Ala	Thr	Ile	Met	Ile	Gln	Lys	Gly	Asn	Phe	Arg	370	375	380
Asn	Gln	Arg	Lys	Thr	Val	Lys	Cys	Phe	Asn	Cys	Gly	Lys	Glu	Gly	His	385	390	395
Ile	Ala	Lys	Asn	Cys	Arg	Ala	Pro	Arg	Lys	Lys	Gly	Cys	Trp	Lys	Cys	405	410	415
Gly	Lys	Glu	Gly	His	Gln	Met	Lys	Asp	Cys	Thr	Glu	Arg	Gln	Ala	Asn	420	425	430
Phe	Leu	Gly	Lys	Ile	Trp	Pro	Ser	His	Lys	Gly	Arg	Pro	Gly	Asn	Phe	435	440	445
Leu	Gln	Ser	Arg	Pro	Glu	Pro	Thr	Ala	Pro	Pro	Glu	Glu	Ser	Phe	Arg	450	455	460
Phe	Gly	Glu	Glu	Thr	Thr	Pro	Ser	Gln	Lys	Gln	Glu	Pro	Ile	Asp		465	470	475
Lys	Glu	Leu	Tyr	Pro	Leu	Ala	Ser	Leu	Arg	Ser	Leu	Phe	Gly	Ser	Asp	485	490	495
Pro	Ser	Ser	Gln													500		

<210> 4

<211> 512

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =  
synthetic construct

<400> 4

Met	Gly	Ala	Arg	Ala	Ser	Val	Leu	Ser	Gly	Gly	Glu	Leu	Asp	Arg	Trp	1	5	10	15
Glu	Lys	Ile	Arg	Leu	Arg	Pro	Gly	Gly	Lys	Lys	Lys	Tyr	Lys	Leu	Lys	20	25	30	
His	Ile	Val	Trp	Ala	Ser	Arg	Glu	Leu	Glu	Arg	Phe	Ala	Val	Asn	Pro	35	40	45	
Gly	Leu	Leu	Glu	Thr	Ser	Glu	Gly	Cys	Arg	Gln	Ile	Leu	Gly	Gln	Leu	50	55	60	
Gln	Pro	Ser	Leu	Gln	Thr	Gly	Ser	Glu	Glu	Leu	Arg	Ser	Leu	Tyr	Asn	65	70	75	80
Thr	Val	Ala	Thr	Leu	Tyr	Cys	Val	His	Gln	Arg	Ile	Glu	Ile	Lys	Asp	85	90	95	
Thr	Lys	Glu	Ala	Leu	Asp	Lys	Ile	Glu	Glu	Glu	Gln	Asn	Lys	Ser	Lys	100	105	110	
Lys	Lys	Ala	Gln	Gln	Ala	Ala	Ala	Asp	Thr	Gly	His	Ser	Ser	Gln	Val	115	120	125	
Ser	Gln	Asn	Tyr	Pro	Ile	Val	Gln	Asn	Ile	Gln	Gly	Gln	Met	Val	His	130	135	140	
Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp	Val	Lys	Val	Val	Glu	145	150	155	160
Glu	Lys	Ala	Phe	Ser	Pro	Glu	Val	Ile	Pro	Met	Phe	Ser	Ala	Leu	Ser	165	170	175	
Glu	Gly	Ala	Thr	Pro	Gln	Asp	Leu	Asn	Thr	Met	Leu	Asn	Thr	Val	Gly	180	185	190	
Gly	His	Gln	Ala	Ala	Met	Gln	Met	Leu	Lys	Glu	Thr	Ile	Asn	Glu	Glu	195	200	205	
Ala	Ala	Glu	Trp	Asp	Arg	Val	His	Pro	Val	His	Ala	Gly	Pro	Ile	Ala	210	215	220	
Pro	Gly	Gln	Met	Arg	Glu	Pro	Arg	Gly	Ser	Asp	Ile	Ala	Gly	Thr	Thr	225	230	235	240
Ser	Thr	Leu	Gln	Glu	Gln	Ile	Gly	Trp	Met	Thr	Asn	Asn	Pro	Pro	Ile	245	250	255	
Pro	Val	Gly	Glu	Ile	Tyr	Lys	Arg	Trp	Ile	Ile	Leu	Gly	Leu	Asn	Lys	260	265	270	
Ile	Val	Arg	Met	Tyr	Ser	Pro	Thr	Ser	Ile	Leu	Asp	Ile	Arg	Gln	Gly	275	280	285	
Pro	Lys	Glu	Pro	Phe	Arg	Asp	Tyr	Val	Asp	Arg	Phe	Tyr	Lys	Thr	Leu	290	295	300	
Arg	Ala	Glu	Gln	Ala	Ser	Gln	Glu	Val	Lys	Asn	Trp	Met	Thr	Glu	Thr	305	310	315	320
Leu	Leu	Val	Gln	Asn	Ala	Asn	Pro	Asp	Cys	Lys	Thr	Ile	Leu	Lys	Ala	325	330	335	
Leu	Gly	Pro	Ala	Thr	Leu	Glu	Glu	Met	Met	Thr	Ala	Cys	Gln	Gly		340	345	350	
Val	Gly	Gly	Pro	Gly	His	Lys	Ala	Arg	Val	Leu	Ala	Glu	Ala	Met	Ser	355	360	365	
Gln	Val	Thr	Asn	Ser	Ala	Thr	Ile	Met	Met	Gln	Arg	Gly	Asn	Phe	Arg	370	375	380	
Asn	Gln	Arg	Lys	Ile	Val	Lys	Cys	Phe	Asn	Cys	Gly	Lys	Glu	Gly	His	385	390	395	400
Ile	Ala	Arg	Asn	Cys	Arg	Ala	Pro	Arg	Lys	Lys	Gly	Cys	Trp	Lys	Cys	405	410	415	
Gly	Lys	Glu	Gly	His	Gln	Met	Lys	Asp	Cys	Thr	Glu	Arg	Gln	Ala	Asn	420	425	430	
Phe	Leu	Gly	Lys	Ile	Trp	Pro	Ser	Tyr	Lys	Gly	Arg	Pro	Gly	Asn	Phe	435	440	445	



Leu	Gln	Ser	Arg	Pro	Glu	Pro	Thr	Ala	Pro	Pro	Phe	Leu	Gln	Ser	Arg
450						455					460				
Pro	Glu	Pro	Thr	Ala	Pro	Pro	Glu	Glu	Ser	Phe	Arg	Ser	Gly	Val	Glu
465					470					475					480
Thr	Thr	Thr	Pro	Ser	Gln	Lys	Gln	Glu	Pro	Ile	Asp	Lys	Glu	Leu	Tyr
				485					490					495	
Pro	Leu	Thr	Ser	Leu	Arg	Ser	Leu	Phe	Gly	Asn	Asp	Pro	Ser	Ser	Gln
			500					505					510		

<210> 5

<211> 512

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/note =  
synthetic construct

<400> 5

Met	Gly	Ala	Arg	Ala	Ser	Val	Leu	Ser	Gly	Gly	Glu	Leu	Asp	Arg	Trp
1				5					10					15	
Glu	Lys	Val	Arg	Leu	Arg	Pro	Gly	Gly	Lys	Lys	Lys	Tyr	Lys	Leu	Lys
			20					25					30		
His	Ile	Val	Trp	Ala	Ser	Arg	Glu	Leu	Glu	Arg	Phe	Ala	Val	Asn	Pro
		35					40					45			
Gly	Leu	Leu	Glu	Thr	Ser	Glu	Gly	Cys	Arg	Gln	Ile	Leu	Gly	Gln	Leu
		50				55					60				
Gln	Pro	Ser	Leu	Gln	Thr	Gly	Ser	Glu	Glu	Leu	Arg	Ser	Leu	Tyr	Asn
65					70					75					80
Thr	Val	Ala	Thr	Leu	Tyr	Cys	Val	His	Gln	Arg	Ile	Glu	Ile	Lys	Asp
				85					90					95	
Thr	Lys	Glu	Ala	Leu	Asp	Lys	Ile	Glu	Glu	Glu	Gln	Asn	Lys	Ser	Lys
			100					105					110		
Lys	Lys	Ala	Gln	Gln	Ala	Ala	Ala	Asp	Thr	Gly	His	Ser	Ser	Gln	Val
		115					120					125			
Ser	Gln	Asn	Tyr	Pro	Ile	Val	Gln	Asn	Ile	Gln	Gly	Gln	Met	Val	His
		130				135					140				
Gln	Ala	Ile	Ser	Pro	Arg	Thr	Leu	Asn	Ala	Trp	Val	Lys	Val	Val	Glu
145					150					155					160
Glu	Lys	Ala	Phe	Ser	Pro	Glu	Val	Ile	Pro	Met	Phe	Ser	Ala	Leu	Ser
				165					170					175	
Glu	Gly	Ala	Thr	Pro	Gln	Asp	Leu	Asn	Thr	Met	Leu	Asn	Thr	Val	Gly
		180						185					190		
Gly	His	Gln	Ala	Ala	Met	Gln	Met	Leu	Lys	Glu	Thr	Ile	Asn	Glu	Glu
		195					200						205		
Ala	Ala	Glu	Trp	Asp	Arg	Val	His	Pro	Val	His	Ala	Gly	Pro	Ile	Ala
		210				215					220				
Pro	Gly	Gln	Met	Arg	Glu	Pro	Arg	Gly	Ser	Asp	Ile	Ala	Gly	Thr	Thr
225					230					235					240
Ser	Thr	Leu	Gln	Glu	Gln	Ile	Gly	Trp	Met	Thr	Asn	Asn	Pro	Pro	Ile
				245					250					255	
Pro	Val	Gly	Glu	Ile	Tyr	Lys	Arg	Trp	Ile	Ile	Leu	Gly	Leu	Asn	Lys
		260						265					270		
Ile	Val	Arg	Met	Tyr	Ser	Pro	Thr	Ser	Ile	Leu	Asp	Ile	Arg	Gln	Gly
		275					280					285			
Pro	Lys	Glu	Pro	Phe	Arg	Asp	Tyr	Val	Asp	Arg	Phe	Tyr	Lys	Thr	Leu
	290					295					300				
Arg	Ala	Glu	Gln	Ala	Ser	Gln	Glu	Val	Lys	Asn	Trp	Met	Thr	Glu	Thr
305					310					315					320

Leu	Leu	Val	Gln	Asn	Ala	Asn	Pro	Asp	Cys	Lys	Thr	Ile	Leu	Lys	Ala		
				325					330						335		
Leu	Gly	Pro	Ala	Ala	Thr	Leu	Glu	Glu	Met	Met	Thr	Ala	Cys	Gln	Gly		
			340					345						350			
Val	Gly	Gly	Pro	Gly	His	Lys	Ala	Arg	Val	Leu	Ala	Glu	Ala	Met	Ser		
			355				360						365				
Gln	Val	Thr	Asn	Ser	Ala	Thr	Ile	Met	Met	Gln	Arg	Gly	Asn	Phe	Arg		
			370				375					380					
Asn	Gln	Arg	Lys	Ile	Val	Lys	Cys	Phe	Asn	Cys	Gly	Lys	Glu	Gly	His		
					390					395					400		
Ile	Ala	Arg	Asn	Cys	Arg	Ala	Pro	Arg	Lys	Lys	Gly	Cys	Trp	Lys	Cys		
			405						410						415		
Gly	Lys	Glu	Gly	His	Gln	Met	Lys	Asp	Cys	Thr	Glu	Arg	Gln	Ala	Asn		
			420					425						430			
Phe	Leu	Gly	Lys	Ile	Trp	Pro	Ser	Tyr	Lys	Gly	Arg	Pro	Gly	Asn	Phe		
			435				440						445				
Leu	Gln	Ser	Arg	Pro	Glu	Pro	Thr	Ala	Pro	Pro	Phe	Leu	Gln	Ser	Arg		
			450				455					460					
Pro	Glu	Pro	Thr	Ala	Pro	Pro	Glu	Glu	Ser	Phe	Arg	Ser	Gly	Val	Glu		
					470					475					480		
Thr	Thr	Thr	Pro	Ser	Gln	Lys	Gln	Glu	Pro	Ile	Asp	Lys	Glu	Leu	Tyr		
				485					490						495		
Pro	Leu	Thr	Ser	Leu	Arg	Ser	Leu	Phe	Gly	Asn	Asp	Pro	Ser	Ser	Gln		
			500					505						510			

<210> 6  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:/note =  
 synthetic construct

<400> 6  
 tccggggcccg gaatgcctat agtccagaac atcc

34

<210> 7  
 <211> 29  
 <212> DNA

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:/note =  
 synthetic construct

<400> 7  
 gcggccgcgt ttgagaacg aaataccgg

29

<210> 8  
 <211> 17207  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:/note =  
 synthetic construct

<400> 8

caggtggcac	ttttcgggga	aatgtgcgcg	gaacccttat	ttgtttat	ttctaaatac	60
attcaaatat	gtatccgctc	atgagacaat	aaccctgata	aatgcttcaa	taatattgaa	120
aaaggaagag	tatgagtatt	caacatttcc	gtgtcgccct	tattcccttt	tttgcggcat	180
tttgccctcc	tgtttttgct	caccagaaaa	cgctgggtgaa	agtaaaagat	gctgaagatc	240
agttgggtgc	acgagtgggt	tacatcgaac	tggatctcaa	cagcggtaag	atccttgaga	300
gttttcgccc	cgaagaacgt	tttccaatga	tgagcacttt	taaagtctcg	ctatgtggcg	360
cggtattatc	ccgtgttgac	gccgggcaag	agcaactcgg	tcgccgcata	cactattctc	420
agaatgactt	ggttgagtac	tcaccagtca	cagaaaagca	tcttacggat	ggcatgacag	480
taagagaatt	atgcagtgtc	gccataacca	tgagtgataa	cactgcggcc	aacttacttc	540
tgacaacgat	cggaggaccg	aaggagctaa	ccgctttttt	gcacaacatg	ggggatcatg	600
taactcgcct	tgatcggttg	gaaccggagc	tgaatgaagc	cataccaaac	gacgagcgtg	660
acaccacgat	gcctgcagca	atggcaacaa	cgttgcgcaa	actattaact	ggcgaactac	720
ttactctagc	ttcccggcaa	caattaatag	actggatgga	ggcggataaa	gttgcaggac	780
cacttctgcg	ctcgccctt	ccggctggct	ggtttattgc	tgataaatct	ggagccgggtg	840
agcgtgggtc	tcgcgggtatc	attgcagcac	tggggccaga	tccattcggg	agggcatagc	900
atcaatagat	gtgctgcccc	tcagtccgtt	gatacctact	tggttaagccc	tcccgtatcg	960
tagttatcta	cacgacgggg	agtcaggcaa	ctatggatga	acgaaataga	cagatcgctg	1020
agataggtgc	ctcactgatt	aagcattggt	aactgtcaga	ccaagtttac	tcatatatac	1080
tttagattga	tttaaaactt	catttttaat	ttaaaaggat	ctaggtgaag	atcctttttg	1140
ataatctcat	gaccaaaate	ccttaacgtg	agttttcgtt	ccactgagcg	tcagaccccg	1200
tagaaaagat	caaaggatct	tcttgagatc	ctttttttct	gcgcgtaate	tgctgcttgc	1260
aaacaaaaaa	accaccgcta	ccagcgggtg	tttgtttgcc	ggatcaagag	ctaccaactc	1320
tttttccgaa	ggtaactggc	ttcagcagag	cgcagatacc	aaatactgtc	cttctagtgt	1380
agccgtagtt	aggccaccac	ttcaagaact	ctgtagcacc	gcctacatac	ctcgctctgc	1440
taatcctgtt	accagtggct	gctgccagtg	gcgataagtc	gtgtcttacc	gggttggact	1500
caagacgata	gttaccggat	aaggcgcagc	ggtcgggctg	aacggggggg	tcgtgcacac	1560
agcccagctt	ggagcgaacg	acctacaccg	aactgagata	cctacagcgt	gagctatgag	1620
aaagcgccac	gcttcccga	gggagaaaag	cggacaggta	tccggtaagc	ggcagggtcg	1680
gaacaggaga	gcgcacgagg	gagcttccag	ggggaacgc	ctggatctct	tatagtcctg	1740
tcgggtttcg	ccacctctga	cctgagcgtc	gatttttctg	atgctcgtca	ggggggcgga	1800
gcctatggaa	aacgccagc	aacgcggcct	ttttacgggt	cctggccttt	tgctgacgtt	1860
ttgctcacat	gttctttcct	gcgttatccc	ctgattctgt	ggataaccgt	attaccgcct	1920
ttgagtgagc	tgataccgct	cgccgcagcc	gaacgaccga	gcgcagcgag	tcagtgagcg	1980
aggaagcgga	agagcgtga	cttccgcgtt	tccagacttt	acgaaacacg	gaaaccgaag	2040
accattcatg	ttgttgctca	ggtcgcagac	gttttgagc	agcagtcgct	tcacgttcgc	2100
tcgcgtatcg	gtgattcatt	ctgctaacca	gtaaggcaac	cccgccagcc	tagccgggtc	2160
ctcaacgaca	ggagcacgat	catgcgcacc	cgtggccagg	acccaacgct	gcccagatg	2220
cgccgcgtgc	ggctgtctga	gatggcggag	gcgatggata	tggtctgcca	agggttggtt	2280
tgcgcattca	cagttctccg	caagaattga	ttggctccaa	ttcttgaggt	ggatgaatccg	2340
ttagcagagt	gccgcgggta	cccctgtaaa	caatgtctga	ctatttataa	atccttgagg	2400
aagacgtgtg	gtggaatgcc	actagaact	agggaaaact	aggaggagag	tattacaggg	2460
aaggaagtga	agaacctcgt	gacccaaata	ctcctgctcc	tcatagacgt	acctgggatg	2520
agagacacaa	ggttcttaaa	ttgtcctcat	tcgctactcc	ctctgacatc	caacgctggg	2580
ctactaaagc	attgccttat	ggctggaaag	tggtcaccga	aagcggaaat	gattatacta	2640
gccgcagaaa	gatcagaaca	ttgacagaga	tgactcagga	tgaaattaga	aaaagggtggg	2700
aaagtggata	ttgtgacccc	ttcattgact	caggaagtga	ctcagatgga	cccttctaaa	2760
agccacagac	agtaaaaatg	tgtagcact	ttatacaata	ttatatctgc	ttaagctata	2820
gaagctttca	catactcagt	agctgtttca	caatcaacaa	aacaatgatg	atgtaatcat	2880
aaggaagtga	tttaaaatag	gttaataagt	ttattagtta	tatagaaaat	aatataggat	2940
aaagtataag	gattaaggta	tgaggtgtgt	ggctcaacac	gtagggtgac	aagaaaatct	3000
actgtaatag	gacacaacac	ctctaaagtt	gcccgtggga	aggtgaagtg	agatcgaatc	3060
tttccttaac	gcagacagct	ttttatccac	tagggataat	gttttaagga	atactatagt	3120
aatagattga	tagttttaac	aatgatggaa	atagtatata	aggatagttt	ctagattgta	3180
cgggagctct	tcactactcg	ctgcgtcgag	agtgtacgag	actctccagg	tttggttaaga	3240
aatattttat	attgtttata	tggtactatg	atccattaac	actctgctta	tagattgtaa	3300
gggtgattgc	aatgctttct	gcataaaaact	ttggttttct	tgtaaatcaa	taaaccgact	3360
tgattcgaga	acctactcat	atattattgt	ctcttttata	ctttattaag	taaaaggatt	3420
tgatattaga	ccttgctaat	ggagacatct	agtgatataa	gtgtgaacta	cacttatctt	3480
aaatgatgta	actccttagg	ataatcaata	tacaaaattc	catgacaatt	ggcgcccaac	3540

gtggggctcg	aatataagtc	gggtttat	gtaaattatc	cctagggacc	tccgagcata	3600
gcgggaggca	tataaaagcc	aatagacaa	ggcttcagga	agtaatgttg	aagaatatga	3660
acttgatgtt	gaagctctgg	ttgtaat	aagagataga	aatatacca	gaaatccttt	3720
acatggagaa	gttataggtc	ttcgccctac	tgaaggatgg	tggggacaaa	ttgagagatt	3780
tcagatggta	cgtctaata	tacaagatga	tgataatgaa	cctttacaga	gacctagata	3840
tgaggtaata	caacgagctg	taaaccctca	tacaatgttt	atgatatcag	gaccattagc	3900
tgaacttcaa	ttagcctttc	aggatttaga	tttacctgaa	gggccattga	ggtttggtcc	3960
attggcaaat	ggacattatg	ttcaaggaga	tccttatagt	agttcttaca	gaccagtaac	4020
aatggccgaa	acagcccaaa	tgactagaga	tgaactggaa	gatgttctta	atactcaaag	4080
tgaaatagaa	attcaaatga	taaat	ggagttgtat	gaagttgaaa	ctagagctct	4140
tagaagacaa	ttagctgaga	gatctagtac	agggcaagga	ggaatatccc	caggagctcc	4200
tcgttctcga	ccaccagtaa	gcagcttctc	agggttacca	agtttgccct	ctatacctgg	4260
gattcatccc	agggcacctt	cacctccaag	ggcaacttct	actcccggaa	atattccttg	4320
gagtttagga	gatgatagcc	caccttcac	tagtttctct	ggaccctctc	aacctcgtgt	4380
ttctttccat	ccgggaaatc	cttttgttga	agaagaaggt	catagaccta	gatcccagtc	4440
tagagaaagg	agaagagaaa	ttcttcctgc	tcctgtaccg	tcagcacctc	ctatgattca	4500
gtatatacca	gtaccacctc	caccaccgat	tggcacgggt	atacctattc	agcatatcag	4560
atctgtaact	ggagagcctc	ctagaaaccc	aagagaaata	ccaatttggc	taggacgaaa	4620
tgctcctgct	atagatggag	tgttccctgt	tacaacaccg	gatctaagat	gcagaataat	4680
taatgctata	ctaggaggaa	atattgggct	atcattaacc	cctggagact	gtttaacatg	4740
ggactcagca	gtagccacct	tatttattag	aacccatgga	acttttccaa	tgcatcagct	4800
tggaaatgta	ataaaaggca	tagttgatca	agaaggagtg	gcaacagcat	atactttggg	4860
aatgatgctt	cttggacaaa	attatcaatt	agtttctgga	ataattagag	gatatttctg	4920
tggacaagct	gtagtaactg	cattacaaca	gcgtttagac	caagaaatag	ataatcaaac	4980
aagagcagag	acttttattc	aacatctaaa	tgctgtatat	gaaatttttag	gccttaatgc	5040
cagaggacaa	agtatacgtg	cttcagtgac	tcctcaaccc	cgaccatcca	gaggtagagg	5100
tcgaggtcaa	aatacttcta	gaccctctca	aggaccagct	aatagcgggc	ggggacgaca	5160
gcgccttgct	tctggtcaaa	gcaacagagg	atctagtact	cagaatcaaa	atcaagataa	5220
tttaaatcaa	ggaggatata	atcttcgacc	ccgtacttac	caacctcaaa	ggtacggagg	5280
aggacgtgga	cgaagatgga	acgataatac	taacaatcaa	gagtccagac	catcagatca	5340
aggttctcaa	actcctaggg	caaatacaagc	aggctctggg	gtgcgtggca	atcagtcaca	5400
aactcccaga	ccagctgctg	gtcgcgagg	aagaggtaac	cacaaccgaa	accaacgac	5460
atccggtgct	gggtgctcac	gcgctgtcaa	taccgtgaca	cagagtgcc	cgctctccac	5520
agatgaatcc	tcttcagctg	ttacagccgc	ttccggcgga	gatcaaagg	actaaattgt	5580
tagcccactg	ggattcagg	gcaacaataa	cttgatttcc	tgaaagtttt	ttagaagatg	5640
aacaacctat	taaaaagact	ttaataaaaa	caattcatgg	agaaaaacaa	caaatgttt	5700
attatgtaac	ctttaaggtt	aaaggaagaa	aagtggaagc	agaagtgata	gcttctcctt	5760
atgagtatat	tttgctgtcg	ccaacagatg	ttccttggtt	aacacagcaa	ccacttcagt	5820
taacaat	agttcctctt	caagaatatc	aagagaaaat	cttaagtaag	actgctcttc	5880
cagaagatca	aaaacaacaa	ttaaaaacct	tgtttgtcaa	gtatgacaat	ctatggcaac	5940
attgggaata	tcaagtcggg	catagaaaaa	ttaggccaca	taatatagca	actggtgatt	6000
atcctcctcg	cctcaaaaa	caatatccta	ttaatcctaa	ggcaaagcct	agtatacaaa	6060
ttgtaataga	tgacttattg	aaacaagggg	tgtaaacgcc	tcaaaatagt	acaatgaata	6120
caccagtgt	tctgttctct	aaaccagatg	gaagggtggag	aatgggtatta	gattatagag	6180
aagtaataaa	aactattcca	ttaacagctg	cccaaaacca	acactctgct	ggatttttag	6240
ctactattgt	tagacaaaaa	tataaaacta	ccttagattt	agctaattgga	ttttgggctc	6300
atcctattac	accagaatct	tattggttaa	cagcatttac	ctggcaagg	aaacagtatt	6360
gttggacacg	tcttcctcaa	ggatttttaa	atagtccagc	attgtttaca	gctgatgtag	6420
tagatttact	aaaagaaatc	cctaattgtac	aagtgtatgt	tgatgatata	tatttaagcc	6480
atgatgatcc	taaagagcat	gttcaacaat	tagaaaaagt	gtttcaaatt	ttactacagg	6540
caggatatgt	agttactctt	aaaaaatcag	aaattgggtca	aaaaactgta	gaatttttag	6600
gatttaatat	tactaaagaa	ggctcgtggc	taacagacac	ttttaaaaca	aaactgttaa	6660
atattactcc	tccaaaagac	ttaaagcaat	tacaaagcat	attaggattg	ttaaattttg	6720
ctagaaat	tataccta	tttgctgaac	tggtacaacc	attatacaat	ttaatagcct	6780
cagcaaaagg	caaatatatt	gagtggctct	aagaaaatac	taaacaatta	aatatggtaa	6840
tagaagcatt	aaacactgcc	tctaatttag	aagaaagggt	accagaacag	agactggtaa	6900
ttaaagtcaa	tacttctcca	tcagcaggat	atgtaagata	ttataatgag	actggtaaaa	6960
agcctattat	gtacctaaat	tatgtgtttt	ccaaagcaga	attaaaattt	tctatgtag	7020
aaaaactatt	aactacaatg	cacaaagcct	taattaaggc	tatggatttg	gccatgggag	7080
aagaaatatt	agtttatagt	ccatttgc	ctatgactaa	aatacaaaaa	actccactac	7140
cagaaagaaa	agctttaccc	attagatgga	taacatggat	gacttattta	gaagatccaa	7200

gaatccaatt	tcattatgat	aaaaccttac	cagaacttaa	gcatattcca	gatgtatata	7260
catctagtca	gtctcctggt	aaacatcctt	ctcaatatga	aggagtgttt	tatactgatg	7320
gctcggccat	caaaagtcct	gacccataca	aaagcaataa	tgctggcatg	ggaatagtac	7380
atgccacata	caaacctgaa	tatcaagttt	tgaatcaatg	gtcaatacca	ctaggtaatc	7440
atactgctca	gatggctgaa	atagctgcag	ttgaatttgc	ctgtaaaaaa	gctttaaaaa	7500
tacctggctc	tgtattagtt	ataactgata	gtttctatgt	agcagaaaag	gctaataaag	7560
aattaccata	ctggaaatct	aatgggtttg	ttaataataa	gaaaaagcct	cttaaacata	7620
tctccaaatg	gaaatctatt	gctgagtgtt	tatctatgaa	accagacatt	actattcaac	7680
atgaaaaagg	catcagccta	caaataccag	tattcatact	gaaaggcaat	gccctagcag	7740
ataagcttgc	cacccaagga	agttatgtgg	ttaattgtaa	taccaaaaaa	ccaaacctgg	7800
atgcagagtt	ggatcaatta	ttacaggggtc	attatataaa	aggatatccc	aaacaatata	7860
catatttttt	agaagatggc	aaagtaaaaag	tttccagacc	tgaaggggtt	aaaattattc	7920
cccctcagtc	agacagacaa	aaaattgtgc	ttcaagccca	caatttggct	cacaccggac	7980
gtgaagccac	tcttttaaaa	attgccaacc	tttattgggtg	gccaaatatg	agaaaggatg	8040
tggttaaaaa	actaggacgc	tgtcaacagt	gtttaatcac	aaatgcttcc	aacaaagcct	8100
ctggtcctat	tctaagacca	gataggcctc	aaaaaccttt	tgataaattc	tttattgact	8160
atattggacc	tttgccacct	tcacagggat	acctatatgt	attagtagtt	gttgatggaa	8220
tgacaggatt	cacttggtta	tacccacta	aggctccttc	tactagcgca	actgttaaat	8280
ctctcaatgt	actcactagt	attgcaattc	caaagggtgat	tcactctgat	caagggtgcag	8340
cattcacttc	ttcaaccttt	gctgaatggg	caaaggaaaag	aggtatacat	ttggaattca	8400
gtactcctta	tcacccccaa	agtggtagta	agggtgaaaag	gaaaaatagt	gatataaaaac	8460
gacttttaac	taaactgcta	gtaggaagac	ccacaaagtg	gtatgaccta	ttgcctgtgt	8520
tacaacttgc	tttaaacac	acctatagcc	ctgtattaaa	atatactcca	catcaactct	8580
tatttggtat	agattcaaat	actccatttg	caaatacaaga	tacacttgac	ttgaccagag	8640
aagaagaact	ttctctttta	caggaaattc	gtacttcttt	ataccatcca	tccacccctc	8700
cagcctcctc	tcgttctctg	tctcctgttg	ttggccaatt	ggtccaggag	agggtggcta	8760
ggcctgcttc	tttgagacct	cgttggcata	aaccgtctac	tgtacttaag	gtggtgaatc	8820
caaggactgt	tgttattttg	gaccatcttg	gcaacaacag	aactgtaagt	atagataatt	8880
taaaacctac	ttctcatcag	aatggcacca	ccaatgacac	tgcaacaatg	gatcatttgg	8940
aaaaaaatga	ataaagcgca	tgaggcactt	caaaatataa	caactgtgac	tgaacagcag	9000
aaggaacaaa	ttatactgga	cattcaaaat	gaagaagtac	aaccaactag	gagagataaa	9060
tttagatata	tgctttatac	ttggtgtgct	actagctcaa	gagtattggc	ctggatgttt	9120
ttagtttgta	tattgttaac	cattgttttg	gtttcatgct	ttgtgactat	atccagaata	9180
caatggaata	aggatattca	ggatattagga	cctgtaatag	actggaatgt	tactcaaaga	9240
gctgtttatc	aacctttaca	gactagaagg	attgcacgtt	cccttagaat	gcagcatcct	9300
gttccaaaat	atgtggagggt	aaatatgact	agtattccac	aagggtgtata	ctatgaaccc	9360
catccggaac	ccatagtgggt	gaaggagagg	gtcctaggtc	tttctcaaat	tctgatgatt	9420
aattcagaaa	acattgctaa	taatgctaatt	ttgacacaag	aagtaaagaa	gttggttaact	9480
gaaatgggta	atgaagaaat	gcaaagtttg	tcagatgtaa	tgattgactt	tgaaattcct	9540
ttaggagacc	ctcgtgatca	agaacaatat	atacatagaa	aatgctatca	agaattttgca	9600
aattgtttat	tagtaaaata	taaagaaccc	aaaccgtggc	ctaaggagggt	ccttatagct	9660
gatcaatgcc	cattaccagg	ttaccatgct	ggattaacct	ataatagaca	gtctatttgg	9720
gattactata	ttaaagtggg	gagtattaga	cctgcaaat	ggacaacaaa	gagtaaataat	9780
ggacaagcta	gactaggaag	tttttatatt	cctagcagcc	tgagacaaat	caatgttagt	9840
catgtactat	tctgtagtga	tcaattatat	tctaaatgggt	ataatataga	aaataccata	9900
gaacaaaacg	agcggtttct	gcttaataaa	ctaaataacc	ttacatctgg	aacctcagta	9960
ttgaagaaaa	gagctcttcc	gaaggattgg	agttctcaag	gtaaaaatgc	tctgtttaga	10020
gaaatcaatg	tgttagatat	ctgcagtaaa	cctgaatctg	taatactatt	gaatacttca	10080
tactattcct	tctcttttatg	ggaaggagat	tgtaatttta	ctaaagatat	gattttctcag	10140
ttgggtccag	aatgtgatgg	atttttataac	aattctaaagt	ggatgcatat	gcatccatat	10200
gctttagatg	tctggagaag	taagaagaat	gaaaaagaag	aaactaaatg	tagagatggg	10260
gaaactaaga	gatctctgta	ttatccttta	tgggacagtc	ccgaatctac	atatgatttt	10320
ggttatttag	cataccaaaa	gaatttttct	tcccctatct	gtatagaaca	acagaaaatt	10380
agagatcaag	attatgaagt	ctatttcttg	tatcaagaac	gcaaaatagc	ttctaaagca	10440
tatggaattg	atacagtttt	atttctctcta	aagaattttc	ttaattatac	aggaactcct	10500
gtaaatgaaa	tgccaatatgc	aagagctttt	gtaggcctaa	tagatcccaa	gtttcctcct	10560
tcctatccca	atgttactag	ggaacattat	acttctctgta	ataataggaa	aagaagaagt	10620
gttgataata	actatgctaa	gttaagggtct	atgggggtatg	cacttacagg	agcagtgcaa	10680
accttatctc	aaatatcaga	tattaatgat	gaaaacttac	agcaagggaat	atatttatta	10740
agggatcatg	taataacctt	aatggaagct	acattgcatg	atatatctgt	tatggaagga	10800
atgtttgctg	tacaacattt	gcatacacat	ttgaatcatt	tgaagacaat	gcttctagaa	10860

agaagaatag	actggaccta	tatgtctagt	acttggctac	aacaacaatt	acagaaatct	10920
gatgatgaga	tgaaagtaat	aaagagaatt	gctagaagtt	tggtatatta	tgtaaaca	10980
acccatagtt	ctcccacagc	tacagcctgg	gagattggat	tatattatga	attggttata	11040
cctaaacata	tttacttgaa	taattggaat	gttgccaata	taggtcactt	agttaaatca	11100
gctggacaat	tgactcatgt	aactatagct	catccttatg	aaataatcaa	taagggaatgt	11160
gtagagacta	tatatctgca	tcttgaggac	tgcacaagac	aagattatgt	catatgtgat	11220
gtggtaaaga	tagtgcagcc	ttgtggcaat	agctcagaca	cgagtgattg	tcctgtctgg	11280
gctgaagctg	taaaagaacc	atgtgtgcaa	gtcaatcctc	tgaaaaacgg	aagttatctg	11340
gttttgcaa	gttccacaga	ctgtcagatc	ccaccatatt	ttcctagcat	cgtgactgtt	11400
aatgaaacaa	cgctcatgctt	tggactggac	tttaaaaggc	cactggttgc	ggaagaaaga	11460
ttgagctttg	agccacgact	gccaaatcta	caactaagat	taccacattt	ggttggaatt	11520
attgcaaaaa	tcaaagggat	aaaaatagaa	gtcacatcct	ctggagaaag	tataaaagag	11580
cagattgaaa	gagcaaaagc	tgagctcctt	cgactggaca	ttcacgaggg	agatactcct	11640
gcctggatac	aacagctagc	tgacgcaaca	aaggacgtct	ggccagcagc	agcttctgct	11700
ctacaaggaa	ttggtaactt	tttatctggg	actgccaag	gaatatttgg	aactgccttt	11760
agtctcttgg	gatacttaaa	gcctatccta	ataggagtag	gggtcattct	cttggttatt	11820
cttatattta	agattgtatc	atggattcct	acgaaaaaga	agaatcagta	gcctccacct	11880
ctggaattca	agacctgcag	actctgagtg	agcttgttgg	tcctgaaaat	gccggagagg	11940
gagagctgac	tattgctgag	gaacctgaag	aaaatcctcg	acgccccaga	cgatatacta	12000
aaagagaagt	caaatgtgtg	tcttatcatg	catataaaga	aattgaggac	aaacatcctc	12060
aacatattaa	actgcaggat	tggatcccca	caccagagga	aatgagtaag	tcactctgta	12120
aaagacttat	tttatgtgga	ttgtatagtg	cagaaaaggc	ctcagagatt	ttaaggatgc	12180
ctttttagct	ttcttgggaa	caatcagata	ctgacctga	ctgttttatt	gtaagctata	12240
catgtatatt	ttgtgatgct	gtaatacatg	atcccatgcc	cataagatgg	gatcctgaag	12300
ttggaatttg	ggtaaaatat	aaaccctca	gaggaattgt	tggatctgct	gtgtttatta	12360
tgcataaaca	tcaaagaaac	tgttctcttg	ttaaaccttc	taccagtcgc	tcagaaggct	12420
caaaaccaag	acctaggcac	gatcctgtcc	ttcgatgtga	catgtttgaa	aagcatcaca	12480
agcctcggca	gaaacgaccc	aggagacgat	ccatcgataa	tgagtcatgt	gcttccagta	12540
gtgacacca	ggccaatgag	ccaggatcac	tatgcaccaa	ccctctttgg	aatcctggac	12600
cgctactatc	agggctactt	gaagagtcca	gcaacctacc	aaacttggaa	gttcacatgt	12660
ccgatatccc	catgggtgcg	agagcgtcgg	tattaagcgg	gggagaatta	caggtggacc	12720
cttctgggaa	gaggtttatg	gggactcaat	tttgggtccc	ccctctgggt	caggtgaaca	12780
ttcagtttta	taagaattat	cagatttcta	cttgcgtgca	ggctgtagat	cttcttaagc	12840
ttgctgggga	cgctcaggtc	aaccctatgg	gtgcgagagc	gtcggtatta	agcggggggag	12900
aattagataa	atgggaaaaa	attcgggtta	ggccaggggg	aaagaaacaa	tataaactaa	12960
aacatatagt	atgggcaagc	agggagctag	aacgattcgc	agttaatcct	ggccttttag	13020
agacatcaga	aggctgtaga	caaatactgg	gacagctaca	accatccctt	cagacaggat	13080
cagaagaact	tagatcatta	tataatacaa	tagcagtcct	ctattgtgtg	catcaaagga	13140
tagatgtaaa	agacaccaag	gaagccttag	ataagataga	ggaagagcaa	aacaaaagta	13200
agaaaaaggc	acagcaagca	gcagctgaca	caggaaacaa	cagccaggct	agccaaaatt	13260
accctatagt	gcagaacctc	caggggcaaa	tggtacatca	ggccatatca	cctagaactt	13320
taaatgcatg	ggtaaaagta	gtagaagaga	aggctttcag	cccagaagta	atacccatgt	13380
tttcagcatt	atcagaagga	gccacccac	aagattttaa	taccatgcta	aacacagtgg	13440
ggggacatca	agcagccatg	caaatgttaa	aagagaccat	caatgaggaa	gctgcagaat	13500
gggatagatt	gcatccagtg	catgcagggc	ctattgcacc	aggccagatg	agagaaccaa	13560
ggggaagtga	catagcagga	actactagta	cccttcagga	acaaatagga	tggatgacac	13620
ataatccacc	tatcccagta	ggagaaatct	ataaaagatg	gataatcctg	ggattaaata	13680
aaatagtaag	aatgtatagc	cctaccagca	ttctggacat	aagacaagga	ccaaaggaac	13740
ccttttagaga	ctatgtagac	cgatttctata	aaactctaag	agccgagcaa	gcttcacaag	13800
aggtaaaaaa	ttggatgaca	gaaaccttgt	tggtccaaaa	tgcaaccca	gattgttaaga	13860
ctatttttaa	agcatgtgga	ccaggagcga	cactagaaga	aatgatgaca	gcatgtcagg	13920
gagtgggggg	acccggccat	aaagcaagag	ttttggctga	agcaatgagc	caagtaacaa	13980
atccagctac	cataatgata	cagaaaggca	attttaggaa	ccaaagaaag	actgttaagt	14040
gtttcaattg	tggcaaagaa	gggcacatag	ccaaaaattg	cagggccctt	aggaaaaagg	14100
gctgttgga	atgtggaaag	gaaggacacc	aatgaaaga	ttgtactgag	agacaggcta	14160
attttttagg	gaagatctgg	ccttcccaca	agggaggcc	aggggaattt	cttcagagca	14220
gaccagagcc	aacagcccca	ccagaagaga	gcttcagggt	tggggaagag	acaacaactc	14280
cctctcagaa	gcaggagccg	atagacaagg	aactgtatct	tttagcttcc	ctcagatcac	14340
tctttggcag	cgacccctcg	tcacaataac	aaggggaagt	gacatagcag	gaactactag	14400
tacccttcag	gaacaaatag	gatggatgac	acataatcca	cctatcccag	taggagaaat	14460

ctataaaaga	tggataatcc	tgggattaaa	taaaatagta	agaatgtata	gccctaccag	14520
cattctggac	ataagacaag	gaccaaagga	accctttaga	gactatgtag	accgattcta	14580
taaaactcta	agagccgagc	aagcttcaca	agaggtaaaa	aattggatga	cagaaacctt	14640
gttggtccaa	aatgcgaacc	cagattgtaa	gactatttta	aaagcattgg	gaccaggagc	14700
gacactagaa	gaaatgatga	cagcatgtca	gggagtgggg	ggaccgggcc	ataaagcaag	14760
agttttgatg	ggtgcgagag	cgtcgggtatt	aagcggggga	gaattagata	aatgggaaaa	14820
aattcgggta	aggccagggg	gaaagaaaaca	atataaacta	aaacatatag	tatgggcaag	14880
caggggagcta	gaacgattcg	cagttaatcc	tggcctttta	gagacatcag	aaggctgtag	14940
acaaatactg	ggacagctac	aaccatccct	tcagacagga	tcagaagaac	ttagatcatt	15000
atataataca	atagcagtc	tctattgtgt	gcatcaaagg	atagatgtaa	aagacaccaa	15060
ggaagcctta	gataagatag	aggaagagca	aaacaaaagt	aagaaaaagg	cacagcaagc	15120
agcagctgac	acaggaaaaca	acagccaggt	cagccaaaat	taccctatag	tgcagaacct	15180
ccaggggcaa	atggtacatc	aggccatatc	acctagaact	ttaaatgcat	gggtaaaaagt	15240
agtagaagag	aaggctttca	gcccagaagt	aatacccatg	ttttcagcat	tatcagaagg	15300
agccacccca	caagatttaa	ataccatgct	aaacacagtg	gggggacatc	aagcagccat	15360
gcaaagtgtta	aaagagacca	tcaatgagga	agctgcagaa	tgggatatag	tgcattccagt	15420
gcatgcaggg	cctattgcac	caggccagat	gagagaacca	aggggaagtg	acatagcagg	15480
aactactagt	acccttcagg	aacaaatagg	atggatgaca	cataatccac	ctatcccagt	15540
aggagaaatc	tataaaagat	ggataatcct	gggattaaat	aaaatagtaa	gaatgtatag	15600
ccctaccagc	attctggaca	taagacaagg	accaaaggaa	cccttttagag	actatgtaga	15660
ccgatttctat	aaaactctaa	gagccgagca	agcttcacaa	gaggtaaaaa	attggatgac	15720
agaaaccttg	ttggtccaaa	atgcgaaccc	agattgtaag	actattttta	aagcattggg	15780
accaggagcg	acactagaag	aaatgatgac	agcatgtcag	ggagtggggg	gacccggcca	15840
taaagcaaga	gttttgtaaa	gcggccgcga	ctctaggggg	ttcgcgataa	gtaagtaagc	15900
ttatggacct	cagagaggaa	gtaacgagga	gaggggtgtg	tggaaatgtca	ctagaaacca	15960
gggaaaaaca	ggaggagagt	attacagggg	aggaggtgaa	gaacctcatt	acccaaatac	16020
tcctgtctct	catagacgta	cctgggatga	gagacacaag	gttctttaat	tgtcctcatt	16080
cgctactccc	tctgacatcc	aacgctgggc	tactaaagca	ttgccttatg	gctggaaaagt	16140
ggtcaccgaa	agcggaaatg	attatactag	ccgcagaaaag	atcagaacat	tgacagagat	16200
gactcaggat	gaaattagaa	aaaggtggga	aagtggatat	tgtgacccct	tcattgactc	16260
aggaagtgac	tcagatggac	ccttctaaaa	gccacagaca	gtaaaaatgt	gttagcactt	16320
tatacaatat	tatatctgct	taagctatag	aagctttcac	atactcagta	gctgtttcac	16380
aatcaacaaa	acaatgatga	tgtaatcata	aggaagtagt	ttaaataggt	taataagttt	16440
attagttata	tagaaaataa	tataggataa	agtataagga	ttaaggtagt	aggtgtgtgg	16500
ctcaacacgt	agggtgacaa	gaaaatctac	tgtaatagga	cacaacacct	ctaaagttgc	16560
ccgtgggaag	gtgaagttag	atcgaatctt	tccttaacgc	agacagcttt	ttatccacta	16620
gggataatgt	tttaagggaat	actatagtaa	tagattgata	gttttaacaa	tgatggaaat	16680
agtatataag	gatagtttct	agattgtacg	ggaggctctt	cactactcgc	tgcgtcgaga	16740
gtgtacgaga	ctctccagggt	ttggtaagaa	atattttata	ttgtttataat	gttactatga	16800
tccattaaca	ctctgcttat	agattgtgaag	ggtgattgca	atgctttctg	cataaaaactt	16860
tggttttctt	gttaatcaat	aaaccgactt	gattcgagaa	ccaactccta	tattattgtc	16920
tctttttatac	tttattaagt	aaaaggattt	gtatattagc	cttgctaagg	gagacatcta	16980
gtgatataag	tgtgaactac	acttatctta	aatgatgtaa	ctccttagga	taatcaatat	17040
acaaaattcc	atgacaagat	ccacaggacg	ggtgtggctg	ccatgatcgc	gtagtcgata	17100
gtggctccaa	gtagcgaagc	gagcaggact	gggcgccggc	caaagcggtc	ggacagtgc	17160
ccgagaacgg	gtgcgcatag	aaattgcatc	aacgcataata	gcgctag		17207